PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Olivier COLETTE et al.

U.S. Patent Appln. No.: New U.S. Patent Appln.
based on International Appln. No. PCT/FR01/02441

Filed: April 1, 2002 Attorney Dkt. No.: 01200.585

For: DEVICE FOR PROTECTING AN ELECTRIC SOURCE ADAPTED TO POWER AN ELECTRIC MEMBER

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

April 1, 2002

Sir :

Prior to the prosecution of the above-captioned application, please enter the following amendments.

IN THE ABSTRACT:

Please add the following Abstract as follows:

A device for protecting an electric source to power an electric member having a control unit to deliver a signal representing the availability of the electric source, to a control unit. The unit determines an operating mode of the electric member wherein the power consumption of the electric member is a function of the availability signal received from the control unit. The electric source can directly power the electric member and the control unit can act on the electric member itself. The control unit can also be interposed between the electric source and the electric member to modify at least one characteristic of the current powering the electric member.

IN THE CLAIMS:

Please amend claims 5 and 10 as follows:

5. (Amended) Protection device according to Claims 4, wherein the assembly of resistors (28) consists of a divider bridge that comprises a plurality of resistors (44, 46, 48) determining connection terminals (32, 36, 50, 52) between them and at their ends, the adjustment means (60) connecting the control line (62) to one of these connection terminals (32, 36, 50, 52) according to the availability signal (8).

10. (Amended) Control device according to Claims 7, wherein the electrical component is an electric motor (4) driving a compressor of an air-conditioning system and in that the manual control (94) is capable of obtaining a continuous adjustment of the speed of the motor between a minimum speed corresponding to a "warmest" mode and a maximum speed corresponding to a "coolest" mode.

Please add new claims 11-12 as follows.

11. Control device according to Claim 8, wherein the electrical component is an electric motor (4) driving a compressor of an air-conditioning system and in that the manual control (94) is capable of obtaining a continuous adjustment of the speed of the motor between a minimum speed corresponding to a "warmest" mode and a maximum speed corresponding to a "coolest" mode.

12. Control device according to Claim 9, wherein the electrical component is an electric motor (4) driving a compressor of an air-conditioning system and in that the manual control (94) is capable of obtaining a continuous adjustment of the speed of the motor

between a minimum speed corresponding to a "warmest" mode and a maximum speed corresponding to a "coolest" mode.

REMARKS

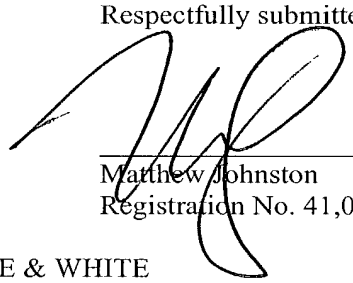
Claims 1-12 are pending in the application. By this Amendment, Claims 5 and 10 have been amended to delete multiple dependency and Claims 11 and 12 are added. Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. Applicants are submitting herewith an Abstract in accordance with U.S. practice. The Abstract has been taken directly from the corresponding International Application. A clean copy of the Abstract is provided on a separate sheet of paper herewith.

The attached page is captioned "Version with markings to show changes made".

No new matter has been introduced.

Applicants believe that no fee is required for this submission. However, should a fee be due, please charge such fee to Deposit Account No. 50-0548.

Respectfully submitted,



Matthew Johnston
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Olivier COLETTE et al.

U.S. Patent App. No.: 10/089,406 EXAMINER: UNKNOWN

Filed: April 1, 2002 Art Unit: UNKNOWN

For: DEVICE FOR PROTECTING AN ELECTRIC SOURCE ADAPTED TO POWER AN ELECTRIC MEMBER

SUPPLEMENTAL PRELIMINARY AMENDMENT

August 8, 2002

Commissioner for Patents
Washington, D.C. 20231

Sir:

Please enter the following preliminary amendment in the above referenced application prior to Examination on the merits.

IN THE SPECIFICATION

Please insert the following heading between the title and first paragraph on page 1 between liens 3-4 as follows.

BACKGROUND OF THE INVENTION

1. Field of the Invention

Please insert the following heading between the first and second paragraphs of page 1 between lines 6-7 as follows.

2. Background of the Related Art.

Please amend the first full paragraph on page 2 between lines 3-18 as follows.

SUMMARY OF THE INVENTION

[For this purpose, the invention proposes] The present invention is directed to a device for protecting an electrical source capable of powering at least one electrical component, comprising a test unit capable of delivering a signal representative of the level of availability of the electrical source to a control unit, this control unit determining an operating mode of the electrical component in which the consumption of electrical energy of the latter depends on the availability signal received from the control unit.

Please amend the second full paragraph on page 6 between lines 15-18 as follows.

Other features and advantages of the present invention will furthermore appear on reading the following description referring to the appended figures. [In these figures:]

BRIEF DESCRIPTION OF THE FIGURES

Please insert the following heading between the last two paragraphs of page 6 between lines 36-37 as follows.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

IN THE CLAIMS

Please amend claims 1-10 as follows.

1. Device for protecting an electrical source capable of powering at least one electrical component (4), [characterized in that it] wherein the device comprises a test unit (6) capable of delivering a signal (8) representative of [the] a level of availability of the electrical source (2) to a control unit (10), [this] the control unit capable of (10) determining an operating mode of the electrical component (4) in which the consumption of electrical energy of the [latter] electrical component depends on the availability signal (8) received from the control unit (6).

2. Protection device according to Claim 1, [characterized in that] wherein the electrical source (2) powers the electrical component (4) directly and [in that] the control unit (10) acts on the electrical component (4) itself in such a way as to limit the quantity of electrical energy that the [latter] electrical component requests from the electrical source (2) for its operation.

3. Protection device according to Claim 1, [characterized in that] wherein the control unit (10) is interposed between the electrical source (2) and the electrical component (4), and [in that] the control unit (10) modifies at least one characteristic of [the] an electric current which supplies the electrical component (4) in such a 30 way as to limit the quantity of energy supplied to the electrical component by the electrical source (2).

4. Protection device according to Claim 3, [characterized in that] wherein the control unit (10) [consists of] includes an inverter (12), capable of applying an electric current of variable frequency to the electrical component (4), and [of] a control circuit (20) of the inverter (12), [this] the control circuit comprising an assembly of resistors (28) interposed between a ground terminal (22) and a maximum voltage terminal (24) of the inverter, the assembly of resistors (28) having a plurality of connection terminals (32, 36,50, 52) capable of being connected to an intermediate terminal (26) of the inverter (12) via a control line (62) provided with adjustment means (60), the availability signal (8) delivered by the test unit (6) being supplied to the adjustment means 60) such that [it] the adjustment means (60) connects the intermediate terminal (26) of the inverter to a

connection terminal (32, 36, 50, 52) of the assembly of resistors (28) determined according to the availability signal (8).

5. Protection device according claim 4, wherein the assembly of resistors (28) [consists of] includes a divider bridge [that comprises] having a plurality of resistors (44, 46,48) [determining] and connection terminals (32, 36, 50, 52) disposed between each of the plurality of resistors and adjacent opposite ends of the plurality of resistors [them and at their ends], the adjustment means (60) connecting the control line 62) to one of [these] the connection terminals (32,36, 50, 52) according to the availability signal(8).

6. Protection device according to Claim 5, [characterized in that] wherein the divider bridge comprises two resistors (44, 46) [determining between them] having a node (50) disposed there between, and [in that] the adjustment means (60) [comprise] includes a first switch (70) having a normal operating position in which the control line (62) is connected [directly or by the intermediary of a protective resistor (40)] to the maximum voltage terminal (24) of the inverter (12) in order to allow a normal operating mode of the electrical component (4), and a degraded operation position in which the control line (62) is connected to the node (50) of the divider bridge in order to allow a degraded

operating mode of the electrical component (4), and by a second switch (72) having a closed position in which the control line (62) is connected to the ground terminal (22) of the inverter (12) in order to prohibit the operation of the electrical component.

7. Control device according to Claim 6, [characterized in that] wherein the assembly of resistors (28) comprises a potentiometer (90) having [its] end terminals (32, 50) [directly or indirectly] connected to the maximum voltage terminal (24) and to the ground terminal (22) of the inverter, and a slider terminal (92) connected to the intermediate terminal (26) of the inverter by the intermediary of the first switch (70) when the [latter] first switch is in its closed position, and [in that it furthermore comprises] a manual control (94) device adjustable by an operator and capable of controlling the potentiometer (90) [directly or indirectly].

8. Control device according to Claim 7, [characterized in that] wherein the two resistors (44, 46) of the divider bridge (28) are separate from the potentiometer (90).

9. Control device according to Claim 7, [characterized in that] wherein the potentiometer (90) constitutes one of the two resistors (44, 46) of the divider bridge.

10. Control device according to one of Claim 7, wherein the electrical component is an electric motor (4) driving a compressor of an air-conditioning system and [in that] the manual control device(94) is capable of obtaining a continuous adjustment of the speed of the motor between a minimum speed corresponding to a ["]warmest["] mode and a maximum speed corresponding to a ["]coolest["] mode.

R E M A R K S

This preliminary amendment is intended to place the instant application in better condition for examination on the merits. Claims 1-12 are pending in the application. By this Amendment the specification and Claims 1-12 have been amended to better conform to the requirements of 35 U.S.C. 112. Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. No new matter has been introduced.

Applicants believe that no fee is required for this submission. However, should a fee be due, please charge such fee to Deposit Account No. 50-0548.

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Olivier COLETTE et al.

U.S. Patent Appln. No.: 10/089,406 EXAMINER: UNKNOWN

Filed: April 1, 2002 Art Unit: UNKNOWN

For: DEVICE FOR PROTECTING AN ELECTRIC SOURCE ADAPTED TO POWER AN ELECTRIC MEMBER

VERSION SHOWING MARKINGS

IN THE SPECIFICATION

Please insert the following heading between the title and first paragraph on page 1 between liens 3-4 as follows.

BACKGROUND OF THE INVENTION

1. Field of the Invention

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SUMMARY OF THE INVENTION

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Please amend the second full paragraph on page 6 between lines 15-18 as follows.

Other features and advantages of the present invention will furthermore appear on reading the following description referring to the appended figures. [In these figures:]

BRIEF DESCRIPTION OF THE FIGURES

Please insert the following heading between the last two paragraphs of page 6 between lines 36-37 as follows.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

IN THE CLAIMS

Please amend claims 1-10 as follows.

1. Device for protecting an electrical source capable of powering at least one electrical component (4), [characterized in that it] wherein the device comprises a test unit (6) capable of delivering a signal (8) representative of [the] a level of availability of the electrical source (2) to a control unit (10), [this] the control unit capable of (10) determining an operating mode of the electrical component (4) in which the consumption of electrical energy of the [latter] electrical component depends on the availability signal (8) received from the control unit (6).

2. Protection device according to Claim 1, [characterized in that] wherein the electrical source (2) powers the electrical component (4) directly and [in that] the control unit (10) acts on the electrical component (4) itself in such a way as to limit the quantity of electrical energy that the [latter] electrical component requests from the electrical source (2) for its operation.

3. Protection device according to Claim 1, [characterized in that] wherein the control unit (10) is interposed between the electrical source (2) and the electrical component (4), and [in that] the control unit (10) modifies at least one characteristic of [the] an electric current which supplies the electrical component (4) in such a 30 way as to limit the quantity of energy supplied to the electrical component by the electrical source (2).

4. Protection device according to Claim 3, [characterized in that] wherein the control unit (10) [consists of] includes an inverter (12), capable of applying an electric current of variable frequency to the electrical component (4), and [of] a control circuit (20) of the inverter (12), [this] the control circuit comprising an assembly of resistors (28) interposed between a ground terminal (22) and a maximum voltage terminal (24) of the inverter, the assembly of resistors (28) having a plurality of connection terminals (32, 36,50, 52) capable of being connected to an intermediate terminal (26) of the inverter (12) via a control line (62) provided with adjustment means (60), the availability signal (8) delivered by the test unit (6) being supplied to the adjustment means 60) such that [it] the adjustment means (60) connects the intermediate terminal (26) of the inverter to a connection terminal (32, 36, 50, 52) of the assembly of resistors (28) determined according to the availability signal (8).

5. Protection device according claim 4, wherein the assembly of resistors (28) [consists of] includes a divider bridge [that comprises] having a plurality of resistors (44, 46,48) [determining] and connection terminals (32, 36, 50, 52) disposed between each of the plurality of resistors and adjacent opposite ends of the plurality of resistors [them and at their ends], the adjustment means (60) connecting the control line 62) to one of [these] the connection terminals (32,36, 50, 52) according to the availability signal(8).

6. Protection device according to Claim 5, [characterized in that] wherein the divider bridge comprises two resistors (44, 46) [determining between them] having a node (50) disposed there between, and [in that] the adjustment means (60) [comprise] includes a first switch (70) having a normal operating position in which the control line (62) is connected [directly or by the intermediary of a protective resistor (40)] to the maximum voltage terminal (24) of the inverter (12) in order to allow a normal operating mode of the electrical component (4), and a degraded operation position in which the control line (62) is connected to the node (50) of the divider bridge in order to allow a degraded operating mode of the electrical component (4), and by a second switch (72) having a closed position in which the control line

(62) is connected to the ground terminal (22) of the inverter (12) in order to prohibit the operation of the electrical component.

7. Control device according to Claim 6, [characterized in that] wherein the assembly of resistors (28) comprises a potentiometer (90) having [its] end terminals (32, 50) [directly or indirectly] connected to the maximum voltage terminal (24) and to the ground terminal (22) of the inverter, and a slider terminal (92) connected to the intermediate terminal (26) of the inverter by the intermediary of the first switch (70) when the [latter] first switch is in its closed position, and [in that it furthermore comprises] a manual control (94) device adjustable by an operator and capable of controlling the potentiometer (90) [directly or indirectly].

8. Control device according to Claim 7, [characterized in that] wherein the two resistors (44, 46) of the divider bridge (28) are separate from the potentiometer (90).

9. Control device according to Claim 7, [characterized in that] wherein the potentiometer (90) constitutes one of the two resistors (44, 46) of the divider bridge.

10. Control device according to one of Claim 7, wherein the electrical component is an electric motor (4) driving a compressor of an air-conditioning system and [in that] the manual control device (94) is capable of obtaining a continuous adjustment of the speed of the motor between a minimum speed corresponding to a ["]warmest["] mode and a maximum speed corresponding to a ["]coolest["] mode.

PATENT APPLICATION

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In re the Application of:

Olivier COLETTE et al.

U.S. Patent Appln. No.: New U.S. Patent Appln.
based on International Appln. No. PCT/FR01/02441

Filed: April 1, 2002 Attorney Dkt. No.: 01200.585

For: DEVICE FOR PROTECTING AN ELECTRIC SOURCE ADAPTED TO POWER AN ELECTRIC MEMBER

VERSION SHOWING MARKINGS

Commissioner for Patents
Washington, D.C. 20231

April 1, 2002

Sir :

Prior to the prosecution of the above-captioned application, please enter the following amendments.

IN THE ABSTRACT:

Please add the following Abstract as follows:

A device for protecting an electric source to power an electric member having a control unit to deliver a signal representing the availability of the electric source, to a control unit. The unit determines an operating mode of the electric member wherein the power consumption of the electric member is a function of the availability signal received from the control unit. The electric source can directly power the electric member and the control unit can act on the electric member itself. The control unit can also be interposed between the electric source and the electric member to modify at least one characteristic of the current powering the electric member.

IN THE CLAIMS:

Please amend claims 5 and 10 as follows:

5. (Amended) Protection device according to [any one of] Claim[s 1 to] 4, [characterized in that] wherein the assembly of resistors (28) consists of a divider bridge that comprises a plurality of resistors (44, 46, 48) determining connection terminals (32, 36, 50, 52) between them and at their ends, the adjustment means (60) connecting the control line (62) to one of these connection terminals (32, 36, 50, 52) according to the availability signal (8).

10. (Amended) Control device according to [one of] Claim[s] 7 [to 9], [characterized in that] wherein the electrical component is an electric motor (4) driving a compressor of an air-conditioning system and in that the manual control (94) is capable of obtaining a continuous adjustment of the speed of the motor between a minimum speed corresponding to a "warmest" mode and a maximum speed corresponding to a "coolest" mode.

Please add new claims 11-12 as follows.

11. Control device according to Claim 8, wherein the electrical component is an electric motor (4) driving a compressor of an air-conditioning system and in that the manual control (94) is capable of obtaining a continuous adjustment of the speed of the motor between a minimum speed corresponding to a "warmest" mode and a maximum speed corresponding to a "coolest" mode.

12. Control device according to Claim 9, wherein the electrical component is an electric motor (4) driving a compressor of an air-conditioning system

and in that the manual control (94) is capable of obtaining a continuous adjustment of the speed of the motor between a minimum speed corresponding to a "warmest" mode and a maximum speed corresponding to a "coolest" mode.

ABSTRACT OF THE DISCLOSURE

A device for protecting an electric source to power an electric member having a control unit to deliver a signal representing the availability of the electric source, to a control unit. The unit determines an operating mode of the electric member wherein the power consumption of the electric member is a function of the availability signal received from the control unit. The electric source can directly power the electric member and the control unit can act on the electric member itself. The control unit can also be interposed between the electric source and the electric member to modify at least one characteristic of the current powering the electric member.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. :

U.S. National Serial No. :

Filed :

PCT International Application No. : PCT/FR01/02441

VERIFICATION OF A TRANSLATION

I, Susan POTTS BA ACIS

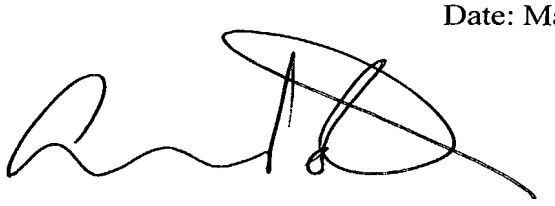
Director to RWS Group plc, of Europa House, Marsham Way, Gerrards Cross, Buckinghamshire, England declare:

That the translator responsible for the attached translation is knowledgeable in the French language in which the below identified international application was filed, and that, to the best of RWS Group plc knowledge and belief, the English translation of the international application No. PCT/FR01/02441 is a true and complete translation of the above identified international application as filed.

I hereby declare that all the statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the patent application issued thereon.

Date: March 18, 2002

Signature of Director :



For and on behalf of RWS Group plc

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Gerrards Cross, Buckinghamshire,
England.